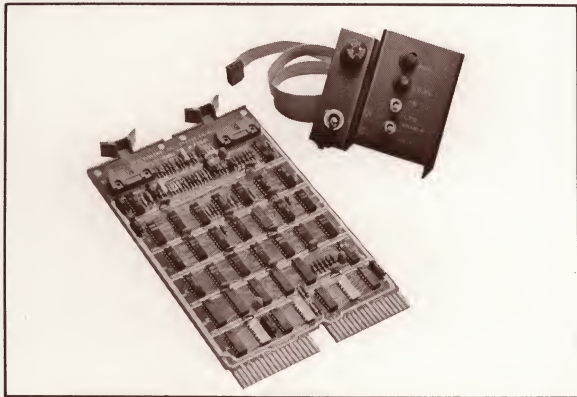
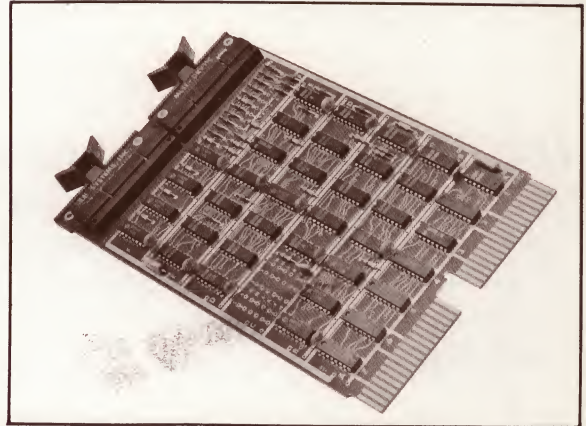


MDB

SYSTEM MODULES for use with LSI*-11/2 and 11/23 Computers

MLSI-DRV11C Parallel Line Interface Module

- Multiple address selection
- Multiple interrupt vector
- Software compatible to DEC DRV 11
- 16 bit word programmed data transfers
- Four control lines to peripheral unit
- Up to 90K words/second transfer rate
- +5V at 1.3A

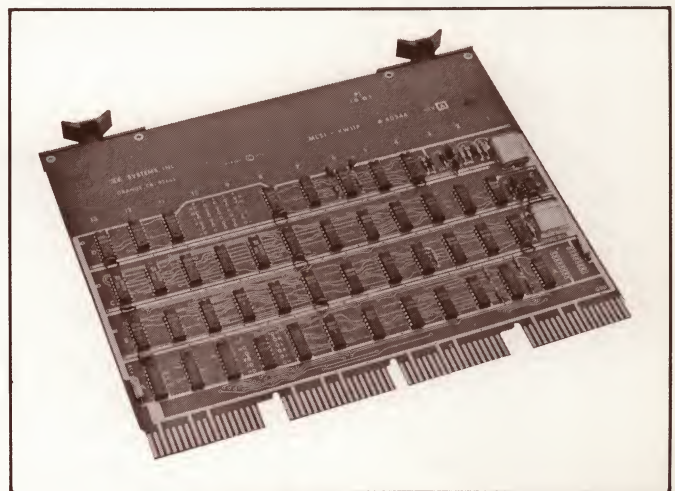


MLSI-SMU Monitoring Unit

- Dual module, mounts in one-half quad slot
- Includes switches and indicators for 11/03 equivalent (mounted on MLSI-BA11)
- Provides power on/off and failure sequencing
- Includes pseudo SWR for PDP-11* compatibility
- DEC LTC or KW11L PDP-11 compatibility (user selected)
- Provides bus termination
- Power requirements +5V at 1.0A; +12V at .1A

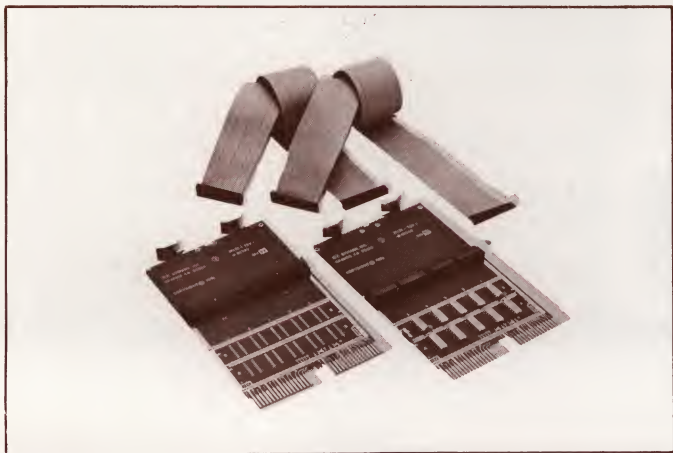
MLSI-KW11P Programmable Real Time Clock

- Quad module, mounts in one quad slot
- Provides PDP-11 software compatibility
- Four clock rates, program selectable
 1. External
 2. 60 Hz
 3. 10KHz
 4. 100KHz
- External inputs
- Crystal controlled
- Three modes of operation
 1. single interrupt
 2. repeat interrupt
 3. external input
- Power requirements +5V at 2.0A



MDB
SYSTEMS INC.

1995 N. Batavia Street
Orange, California 92665
714-998-6900
TWX: 910-593-1339

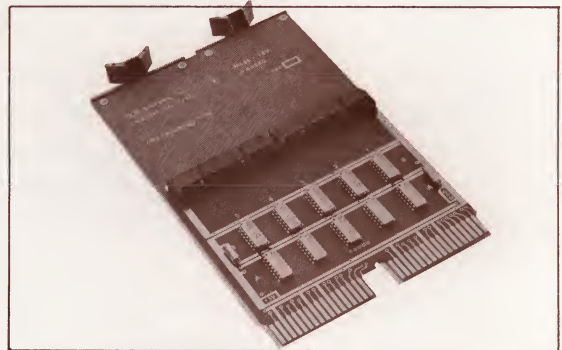


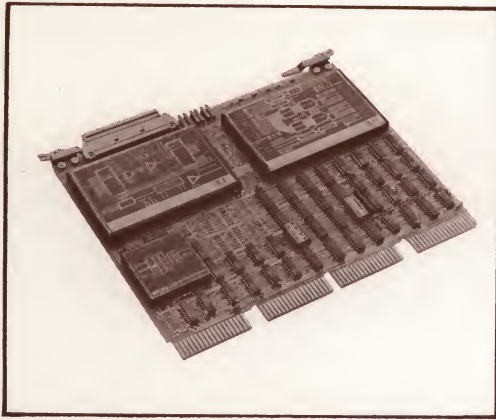
MLSI-BCV Backplane Jumper Cable Assembly

- Uses two MLSI-TEV terminator modules (one in each backplane assembly)
- Includes cables for interconnection (optional length specified by user)
- Provides 120 ohm intrachassis impedance

MLSI-TEV Bus Terminator Module

- Provides 180/390 (120) or 330/680 (250) ohm impedance terminator for LSI bus
- Dual module, mounts in one-half quad slot
- Used on MLSI-BCV for multiple backplane interconnection





MLSI-DT-1761 Analog Input/Output Module

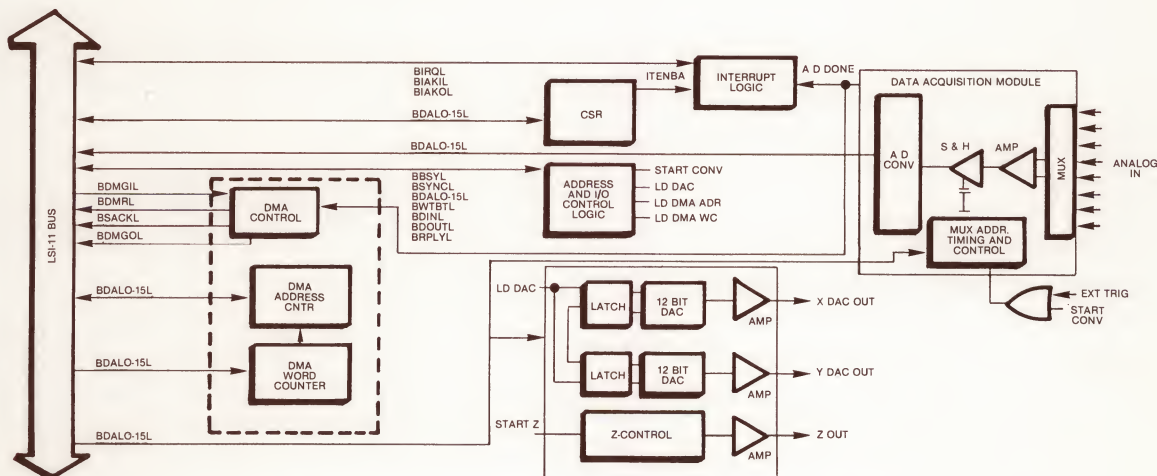
- 16 channel, 12-bit data acquisition module
- Two 12-bit D/A converters with high drive for industrial loads
- Program I/O interrupt interface
 - External trigger
 - SYNC on event
- DMA interface option (on-board)
- Optional programmable gain amplifier, extends dynamic range to 14-bits
- Compatible with DEC LSI BUS, PDP-11 software set and RT-11 real time software
- Throughput rates up to 100K characters per second
- Power requirements +5V at 2A

GENERAL DESCRIPTION

The DT1761 Series are advanced, standardized, low cost data acquisition systems designed for users of the DEC LSI-11 microcomputer series. These new systems are on standard DEC quad size boards that plug into the LSI-11 bus.

The DT1761 analog input/output system offers 16 A/D input channels and 2 D/A output channels -- each D/A with a power amplifier output for driving industrial loads. A complete DMA interface is available as an option on the DT1761.

The module contains several standard features that are usually found only in much higher priced systems. Included as standard are acquisition of data on external event, and a full data acquisition system containing a fully protected input analog multiplexer, sample hold amplifier, and an analog-to-digital converter. The complete system is powered from the computer +5 volt power supply through a highly isolated DC to DC converter contained on the interface board.



Analog I/O system block diagram for model DT1761

ANALOG INPUT SPECIFICATIONS

No. of analog inputs	16 single-ended or 8 differential
Input impedance	100 megohm
Input overvoltage	± 35V max. non-destructive
Input ranges	± 5V, ± 10V, 0 to 10V Jumper selectable
Optional programmable gain amplifier	gains: 1, 2, 4, and 8
Sample and Hold aperture uncertainty	<10 ns
Conversion resolution	12 bits
Linearity	± ½ LSB
Inherent quantizing Stability (Tempco)	± ½ LSB ± 25 ppm/°C FSR
Analog input System accuracy	± 0.03% FSR
Throughput	35KHZ or 30 us (100 KHZ optional)
POWER REQUIREMENTS	
Power	+ 5VDC at 2A
MECHANICAL	
Single Printed Circuit Board	Standard, DEC quadboard
TEMPERATURE	
	0°C to 70°C
INTERFACE SPECIFICATIONS	
Compatibility	compatible with DEC LSI-11 bus
Implementation	Interface implements standard programmed I/O and interrupt functions DMA interface optional
Device address	Selectable by dip switch
Vector address	Selectable by dip switch

ANALOG OUTPUT SPECIFICATIONS

No. of Analog outputs	two 12-bit D/A outputs
Resolution	12 bits
Linearity	± ½ LSB
Range	± 5V, ± 10V, 0 to 10V, at 25mA, jumper selectable
Relative accuracy Full scale setting	± 0.025% 0.1% in 1 us 0.01% in 3 us (50 ft. COAX @ 470 ohms)
Temperature coefficient	± 25 ppm/°C
Z AXIS OUTPUT (Scope Control) Z output	LO (.8V) to HI (2.4V) TTL compatible into 50 ohm termination
Z Risetime	<100 sec into 50 ft. COAX terminated
Z Pulse width	0.5 us - 5 us jumper selectable external R-C 0.2 us - 100 us
Set up delay	3 us - 70 us jumper selectable external R-C 1 us - 0.5 ms
Mode outputs (DACMOD 0,3)	four outputs TTL - 10 unit loads LO true

DT-1761

ORDERING GUIDE

A standard system is shipped with either 16 single-ended (SE) or 8 differential (DI) channels. For additional channels beyond this number add suffix as follows:

for single-ended:

- 32 32 total SE channels
- 64 64 total SE channels

for differential:

- 16 16 total DI channels
- 32 32 total DI channels

The system is shipped complete and ready to use.

Additional Options for DT1761

- add - PG for programmable gain amplifier
- add - C for 100KHz throughput rate
- add - DMA for Direct Memory Access

Software Calibration & Test Routine

A paper tape containing a standard calibration and test routine is shipped with each interface system.

ORDERING EXAMPLE:

DT1761-SE-64-PG-C-DMA

This is a 64 channel single-ended data acquisition system containing a programmable gain amplifier, operating at a throughput rate of 100KHz and containing a DMA interface as well as the standard programmed I/O interrupt interface.